

REMARKS

Reconsideration of the subject application is respectfully requested. Claims 63-64, 69-71, 76, and 77-79 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,987,897 (hereinafter "Funke"), in view of U.S. Patent No. 5,680,241 (hereinafter "Sakanaka"). This rejection is respectfully traversed.

As recited in each of independent Claims 63, 64, 71, 78, and 79, the present invention is directed to a transmitter and a receiver, at least one of which is disposed in a living body, the transmitter and the receiver being used for carrying out data communication by a rotating plane of polarization of light according to the signal to be transmitted. As discussed, for example, in the specification at page 49, "two planar emission laser elements emit laser light having different polarization planes. By associating one of the two planar emission laser elements with the transmission signal, and then selectively driving it, laser light in which the polarization plane is modulated is emitted." Further, as discussed on page 50, line 4, "it is possible to obtain a linearly polarized light 14d parallel to the x-axis and a linearly polarized light 15c parallel to the y-axis." In other words, the polarization plane is rotated by 90 degrees.

A transmitter of the present invention alters the polarization of light, according to a signal to be transmitted. For example, when sending 8 bits of data "10010101", a polarization plane is rotated to "↑→→↑→↑→↑" during the course of transmitting the signal (i.e. according to the signal). In other words, a polarization plane alters with time as a function of the signal being transmitted. If a receiver of the present invention demodulates a light modulated as "→→↑→↑↑→↑" the demodulated light communicates the data "00101101".

It is important to note that the independent claims recite a specific signal that is the basis for rotating the polarization plane. For example, Claim 63 recites a detecting means for detecting an internal state of a living body and for generating a signal representing the detected state; and a transmitting means for transmitting light whose polarization plane is rotated according to the signal.

The Examiner states in the Office Action (paragraph 4) that Sakanaka discloses that transmitted light is polarization modulated by elements 35 and 38, but that is not what is being claimed. The independent claims recite that the polarization plane is rotated according to the signal. What signal causes the polarization plane to rotate in Sakanaka?

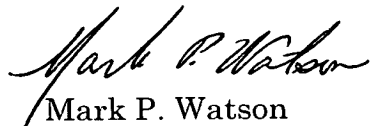
In the system of Sakanaka, s-polarized and p-polarized light are employed simply to prevent cross talk occurring in communication between a transmitter-receiver 31 and a transmitter-receiver 32, as described in column 17, line 28, et. seq. The purpose of using s-polarized light for communication from transmitter-receiver 31 to transmitter-receiver 32 and p-polarized light for communication from transmitter-receiver 32 to transmitter-receiver 31 is that two communication channels share a single light path.

It is important to note that the polarization of light does not vary with time according to the signal, as claimed. Quite the contrary, the s-polarized light remains s-polarized and the p-polarized light remains p-polarized. If the polarization is altered as the Examiner contends, the separation of received light for the two channels on the same path will not be possible and the system of Sakanaka will fail. The Examiner's suggested combination of references would require a substantial reconstruction and redesign of the elements shown in Funke as well as a change in the basic principles under which the Sakanaka apparatus was designed to operate. Thus, the Examiner's suggested combination is untenable. See, for example, *In re Ratti*, 123 USPQ 349 (C.C.P.A. 1959).

The dependent claims recite yet additional novel features and are patentable for at least the same reasons as stated above with reference the independent claims.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration of the present application.

Respectfully submitted,



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